

Work Order ID 144832

April 26, 2016 8:32:36 AM

144832

Page 1

Item ID: D350-591-133 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: AFT Maintenance Step, Fits LH or RH
 Start Date: 5/2/2016 Start Qty: 6.00 ***6*** Cust Item ID:
 Required Date: 5/16/2016 Req'd Qty: 6.00 ***6*** Customer:
 Reference:

Approvals: Process Plan: SU Date: 0160426 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2946	Rev B								
IIN-D350-591	H								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and type labels as per PPP D350-591-133 CHG004								
110	Large Fab	0.00							
110									
Large Fab	Memo	2.58							
Large Fab	1-Cut D2622-120 extrusion to 62.06" long as per Dwg D2946								
	2-Deburr								
	Ensure that 57.09" minimum extrusion is kept and identify to be used for D350-591-215/-216.								

MJ 16-05-02
 6

6 BAS 27 9-89 MAY 25 2016

6 0 BE 16-01-28

B144832 {X6}

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Item ID: D350-591-133

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: AFT Maintenance Step, Fits LH or RH

Start Date: 5/2/2016 Start Qty: 6.00 *6*

Cust Item ID:

Required Date: 5/16/2016 Req'd Qty: 6.00 *6*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							
120									
QC	Memo	0.00							
Quality Control									
130		0.00							
130	Large Fab								
Large Fab	Memo	3.30							
Large Fab	1-Deburr and Bevel ends for welding								
	2-Weld (1) End Cap and (2) Lugs using Jig DT8440 as per Dwg D2946								
	A/RAluminum Rod <u>M134442/M131562</u>								
	3-Grind End Cap welds flush								
140	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
140									
QC	Memo	0.00							
Quality Control									

DAS
03
9-89

16-4-28

6 8 BE 16-04-29

DAS
9
9-89

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WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Accept

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Revision ID:

Item Name: AFT Maintenance Step, Fits LH or RH

Stop ***NS2***

Start Date: 5/2/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 5/16/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O	0.00							
150									DAS
QC	Memo	0.12							9
Quality Control									9-89
160	Chemical Conversion Coat per QSI005 4.1	0.00							
160									
HandFinish	Memo	1.14							
Hand Finishing									
170	QC7-Inspect Chemical Conversion Coat	0.00							
170									
QC	Memo	0.06							
Quality Control									

⑥ 16-05-02

C 16-5-3

DAS
18
9-89

C 16-05-04

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180	Large Fab	0.00							
180									
Large Fab	Memo	2.28							
Large Fab	Remove alodine prior to welding. Weld end cap as per Dwg D2946. Grind end cap weld flush.								
	A/R AL ROD BATCH: <u>M 131562</u>								
190	QC10- Inspect visual per QSI004- ground welds	0.00							
190									
QC	Memo	0.00							
Quality Control									
200	QC5- Inspect part completeness to step on W/O	0.00							
200									
QC	Memo	0.12							
Quality Control									

6 0 BE16-05-04

6 16-05-03 DAS 9 9-89

6 16-05-04 DAS 9 9-89

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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Page 6

Accept

Setup Start *NS1*

Stop *NS2*

Stop *NS2*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Operation Description

Set Up/ Run Hours

Tool ID	Tool #	Plan Code
---------	--------	-----------

Accept Qty	Reject Qty	Reject Number	Insp. Stamp

240

QC3- Inspect Part Finish

0.00

240

OC

Memo

0.06

Quality Control

250

Pick Kit

0.00

250

Packaging

Memo

0.06

Packaging

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.18

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 144832

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144832

Page 7

Item ID: D350-591-133 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: AFT Maintenance Step, Fits LH or RH
Start Date: 5/2/2016 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 5/16/2016 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270	Packaging	0.00							
270									
Packaging	Memo	0.00				6x	DAS 28	DAS 27	
Packaging	Identify and pack for shipping as per PPPD350-591-133 Location: FG038						9-89	9-89	
								MAY 25 2016	
280	QC21- Final Inspection - Work Order Release	0.00							
280									
QC	Memo	0.60					MLJ		MAY 25 2016
Quality Control									

MLJ MAY 25 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐																			

Picklist Print

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Page 1

Work Order ID: 144832

144832

Parent Item: D350-591-133

D350-591-133

Parent Item Name: AFT Maintenance Step, Fits LH or RH

Start Date: 5/2/2016

Required Date: 5/16/2016

Start Qty: 6.00

Required Qty: 6.00

Comments:

IPP Rev:B05.10.14Modified step 10KJ/EC

IPP Rev:C06.07.19D2946 @ rev.b EC

IPP REV:D

14.12.17 ADD DSI9712-011 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3338-1		Manufactured	No				Each	8.0000		6			
D3338-1									**			APR 30 2016	DAS 28 9-89
Mounting Lug													
					<u>Location</u>			<u>Loc Qty</u>	<u>Loc Code</u>				
					ST527			8					
					127949			8					
D2622-120C		Manufactured	No			110	Each	110.2360	0.52	4			
D2622-120C									**			BE 16-04-28	
Step Extrusion													
					<u>Location</u>			<u>Loc Qty</u>	<u>Loc Code</u>				
					WA003			0.236					
					130161			0.236					
					WA004			110					
					140539			110					
D2734		Manufactured	No			130	Each	80.0000	2	12			
D2734									**			BE 16-04-28	
Step End Plate													
					<u>Location</u>			<u>Loc Qty</u>	<u>Loc Code</u>				
					WA003			80					
					134415			30					
					135488			2					
					141034			48					

Picklist Print

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Page 2

Work Order ID: 144832

144832

Parent Item: D350-591-133

D350-591-133

Parent Item Name: AFT Maintenance Step, Fits LH or RH

Start Date: 5/2/2016

Required Date: 5/16/2016

Start Qty: 6.00

Required Qty: 6.00

D2944 Manufactured No 130 Each 14.0000 2 12

D2944

Step Mounting Plate

**

BE 16-04-28

Location

Loc Qty

Loc Code

WA003

14

(126252)

14

250 Each

68.0000

4

12
24

**

AN4-11A

AN4-11A

BOLT

Purchased No

DAS
DAS 28
6 9-89
9-89

Location

Loc Qty

Loc Code

FG

20

120731

20

ST344

48

M133234

48

250 Each

429.0000

8

24
48

**

AN4-14A

AN4-14A

Bolt

Purchased No

DAS
DAS 28
6 9-89
9-89
APR 30 2016

Location

Loc Qty

Loc Code

FG

5

122141

5

over003

250

M134508

100

M134573

150

ST344

174

M133998

174

48

Picklist Print

Page 3

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Work Order ID: 144832

144832

Parent Item: D350-591-133

D350-591-133

Parent Item Name: AFT Maintenance Step, Fits LH or RH

Start Date: 5/2/2016

Required Date: 5/16/2016

Start Qty: 6.00

Required Qty: 6.00

AN4-16A

Purchased

No

250

Each

210.0000

8

48

AN4-16A

Bolt

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

5

121541

5

ST343

205

M134509

80

M134606

125

48

AN4-7A

Purchased

No

250

Each

47.0000

2

12

AN4-7A

Bolt

DAS
27
9-89

Location

Loc Qty

Loc Code

ST325

7

m133790

7

ST345

40

m134249

40

2

D2230-1

Manufactured

No

250

Each

120.0000

4

24

D2230-1

Mounting Lug

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

4

84136

4

ST521

26

115306

1

138049

25

ST525A

90

140536

70

141691

20

27

APR 30 2016

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Shop Packet Print

Page 3

Picklist Print

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Page 4

Work Order ID: 144832

144832

Parent Item: D350-591-133

D350-591-133

Parent Item Name: AFT Maintenance Step, Fits LH or RH

Start Date: 5/2/2016

Required Date: 5/16/2016

Start Qty: 6.00

Required Qty: 6.00

D2230-3

Manufactured No

250

Each

101.0000

4

24

D2230-3

Mounting Lug

DAS
27
9-89

Location

Loc Qty

Loc Code

FG

8

109344

4

89045

4

ST521

93

141406

93

**

DAS

6

9-89

DAS

28

9-89

APR 30 2016

D2732

Manufactured No

250

f

500.0000

2

12

D2732

Rubber Cushion (Sper foot)

DAS
27
9-89

Location

Loc Qty

Loc Code

ST412

500.0000000

117118

5E-10

143793

500

**

144577

144577

DAS
28
9-89

cut (8) at 3.00"

D2945

Manufactured No

250

Each

13.0000

1

6

D2945

Mounting Plate

DAS
27
9-89

Location

Loc Qty

Loc Code

ST022

1

94542

1

ST025A

12

142830

12

**

1

APR 30 2016

DAS
28
9-89

Picklist Print

April 26, 2016 8:32:40 AM

Work Order ID: 144832

144832

Parent Item: D350-591-133

D350-591-133

Parent Item Name: AFT Maintenance Step, Fits LH or RH

Start Date: 5/2/2016

Required Date: 5/16/2016

Start Qty: 6.00

Required Qty: 6.00

MS21042L4

Purchased

No

250

Each

1,648.000

14

84

MS21042L4

Locknut

DAS 26
6 9-89

Location

Loc Qty

Loc Code

GA

283

m133769

283

ST303

1268

m134055

1

m134509

267

m134606

1000

ST305

97

m130922

97

26 1-5
28

NAS1149D0463J

Purchased

No

250

Each

3,186.000

14

84

NAS1149D0463J

WASHER

DAS 28
6 9-89

Location

Loc Qty

Loc Code

GA

328

M132035

21

M134508

307

ST260a

1600

M134508

600

M134634

1000

ST263

270

M134039

29

M134573

241

ST269

988

M132317

100

M132677

888

84

APR 30 2016

DAS 27
9-89



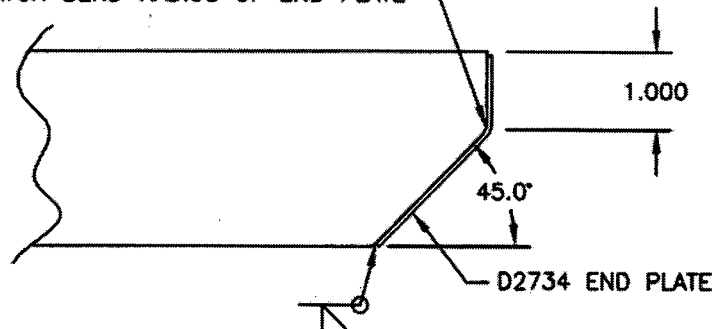
D2946 STEP ASSEMBLY PARTS LIST

Part No.	Description	QTY
D2946	Step Assembly	X
D2622-63	STEP EXTRUSION*	1
D2734	END PLATE	2
D2944	STEP MOUNTING PLATE	2

*cut per drawing

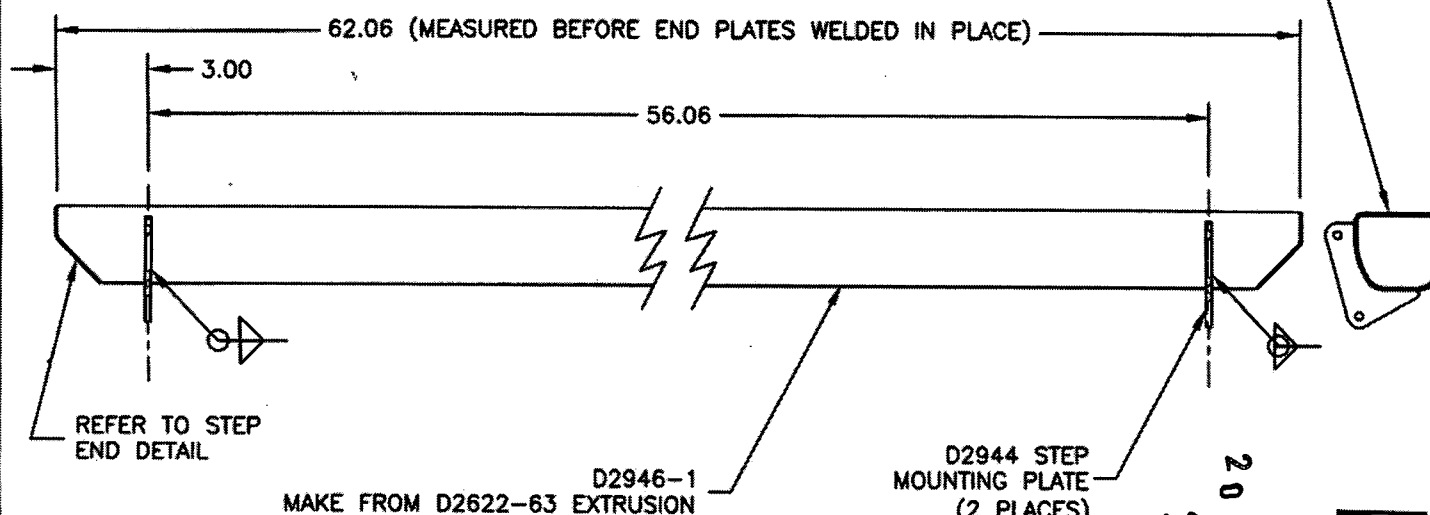
NOTE: ALL WELDS SHALL BE
100% VISUALLY
INSPECTED BY A
QUALIFIED INSPECTOR
PER DART QSI 004

ROUND CORNER OF EXTRUSION TO
MATCH BEND RADIUS OF END PLATE



TYPICAL STEP END DETAIL
NOT TO SCALE

APPLY BLACK ANTI-SKID
ON TOP SURFACE TO
BOTTOM OF TOP RADIUS



D2946-041 STEP ASSEMBLY

D2946 STEP ASSEMBLY

- 1) MAKE FROM D2622 STEP EXTRUSION
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ENTIRE ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DESIGN	CP	DRAWN BY	PH	DART AEROSPACE LTD
CHECKED	PH	APPROVED	PH	HAWKESBURY, ONTARIO, CANADA
DATE	05.11.14	TITLE	D2946	REV. B
			STEP ASSEMBLY	SHEET 1 OF 1
			NEW ISSUE	SCALE 1:1
			UPDATE FINISHING NOTE	

RELEASED
05.11.28

20160426

144832

5.0 PARTS LIST

Qty -117A	Qty -119	Qty -133	Part Number	Description
X			D350-591-117A	<i>Heli-Access-Step</i> ™, Pre-Flight Step
	X		D350-591-119	<i>Heli-Access-Step</i> ™, Long Step – Low Skid
		X	D350-591-133	<i>Heli-Access-Step</i> ™, Aft Maintenance Step
	1		D2355	STEP ASSEMBLY (LOW-LONG)
		1	D2946-041	STEP ASSEMBLY (MAINTENANCE)
2	2		D2171	CLAMP
2	2		D2182B035	CUSHION
		4	D2230-1	MOUNTING LUG
		4	D2230-3	MOUNTING LUG
4	4		D2274	RADIUS BLOCK
1			D2362-041	SUPPORT BRACKET
	1		D2362-3	SUPPORT BRACKET
		1	D2945	MOUNTING PLATE
1	1		D3595-200-300	CUSHION
		8	D2732-030	CUSHION
	2		AN3-37A	BOLT
		2	AN4-7A	BOLT
		4	AN4-11A	BOLT
		8	AN4-16A	BOLT
	4		AN4-21A	BOLT
4	1		AN4-22A	BOLT
	4		NAS1149D0363J	WASHER (AN960JD10)
4	6	14	NAS1149D0463J	WASHER (AN960JD416)
	2		MS21042L3	NUT
4	5	14	MS21042L4	NUT

Qty -121	Qty -122	Qty -123	Qty -124	Part Number	Description
X				D350-591-121	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X			D350-591-122	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X		D350-591-123	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X	D350-591-124	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
1				D2351-041	STEP ASSEMBLY (HIGH-SHORT, LH)
	1			D2351-042	STEP ASSEMBLY (HIGH-SHORT, RH)
		1		D2356-041	STEP ASSEMBLY (LOW-SHORT, LH)
			1	D2356-042	STEP ASSEMBLY (LOW-SHORT, RH)
1	1	1	1	D2230-1	MOUNTING LUG
1	1	1	1	D2230-3	MOUNTING LUG
2	2	2	2	D2732-030	CUSHION
2	2	2	2	AN3-37A	BOLT
1	1	1	1	AN4-13A	BOLT
2	2	2	2	AN4-16A	BOLT
4	4	4	4	NAS1149D0363J	WASHER (AN960JD10)
6	6	6	6	NAS1149D0463J	WASHER (AN960JD416)
2	2	2	2	MS21042L3	NUT
3	3	3	3	MS21042L4	NUT

DART SERVICE INSTRUCTION

**TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D350-591 REV. 3**
REF TCCA STC: SH92-6
REF FAA STC: SH967NE

1.0 Purpose

It has come to DART's attention that it may be difficult to fasten the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Installations to the forward crosstube due to variations between crosstubes. For this reason, DART is adding the D3338-1 Mounting Lug to the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Kits at CHG 004 and later.

For D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Step Kits at CHG 003 and earlier, DSI 9712-011 Mounting Lug Kit can be procured from DART. The kit contains all parts to upgrade a single step kit.

2.0 Installation

- 2.1 It is acceptable to install the D3338-1 Mounting Lug in lieu of the D2230-1 Mounting Lug as required to reduce the gap between step and the forward crosstube in accordance with the figures of this service instruction.
- 2.2 The height to set up the D350-591-133 Maintenance Step has been revised from 7.0in to 6.0in $\pm$ 1.0in to provide more flexibility. See sheet 2 of this service instruction.
- 2.3 In all other respects, install the D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Steps in accordance with Section 3.1 of Installation Instructions D350-591 or Section 32.1 of Instructions for Continued Airworthiness ICA-D350-591.

3.0 Parts List Change

The following additional part is provided with D350-591-133 Aft Maintenance Step and D350-591-213/-214 Heli-Access-Steps at CHG 004:

Qty -133	Qty -213	Qty -214	Part Number	Description
X			D350-591-133	Heli-Access-Step™, Aft Maintenance Step
	X		D350-591-213	Heli-Access-Step™, Short Step – High Skid, LH
		X	D350-591-214	Heli-Access-Step™, Short Step – High Skid, RH
1	1	1	D3338-1	MOUNTING LUG (ADD)

4.0 DSI 9712-011 Mounting Lug Kit Parts List

For existing D350-591-133 Aft Maintenance Steps and D350-591-213/-214 Heli-Access-Steps at CHG 003 or earlier, one DSI 9712-011 kit upgrades one step installation:

Qty -011	Part Number	Description
X	DSI 9712-011	Mounting Lug Kit
1	D3338-1	MOUNTING LUG

5.0 Weight and Balance

There is a negligible weight change associated with this modification.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 14.12.04
CERT. NO.: SH92-6
ISSUE NO.: 11

A	NEW ISSUE	MB	14.10.22
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9712	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		INSTALLATION OPTION	NTS
DATE	14.10.22	COPYRIGHT © 2014 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

REFERENCE ONLY

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER

REF CANADIAN STC: SH92-6

REF FAA STC: SH967NE

For D350-591-121/-122/-123/-124/-133 steps, customers have the option of installing D2732-030 cushions under the D2230-1/-3 clamps to accommodate varying crosstube diameters and to improve fit. It is also acceptable to use longer or shorter AN4 bolts, and/or extra AN960JD416 washers under the nut to ensure 1.5 to 4 threads in safety. See Figure 1 on sheet 2 of this service instruction for reference.

For D350-591-121/-122 steps at CHG 005, D350-591-123/-124 steps at CHG 004, and D350-591-133 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -121	Qty -122	Qty -123	Qty -124	Qty -133	Part Number	Description
X					D350-591-121	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
	X				D350-591-122	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
		X			D350-591-123	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
			X		D350-591-124	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
				X	D350-591-133	<i>Heli-Access-Step</i> ™, Aft Maintenance Step
2	2	2	2	8	D2732-030	CUSHION
2	2	2	2	8	AN4-16A	BOLT

The DSI-9459-011 kit is available for customers with earlier model D350-591-121/-122/-123/-124 steps. Longer AN4 bolts are provided to fasten the clamps. The DSI-9459-013 kit is available for customers with earlier model D350-591-133 steps.

Qty -011	Qty -013	Part Number	Description
X		DSI-9459-011	Rubber Cushion Kit (for -121/-122/-123/-124 steps)
	X	DSI-9459-013	Rubber Cushion Kit (for -133 steps)
2	8	D2732-030	CUSHION
2	8	AN4-16A	BOLT

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED


BY: D. SHEPHERD (DE # 02)

DATE: 09.06.24
CERT. NO.: SH92-6
ISSUE NO.: 11

B	AN4-16A WAS -17A FOR -013/-133 KIT	CP	09.06.24
A	NEW ISSUE	CP	09.04.17
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. REV. B DSI 9459 SHEET 1 OF 2 TITLE SCALE OPTIONAL CLAMP MODIFICATIONS NTS COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
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CHECKED			
MFG. APPR.	N/A		
APPROVED			
DE APPR.			
DATE	09.06.24		